

Information Search Experience: Emotions In Information Seeking

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Information Seeking and Emotions

- Background
- Models of Information Seeking
- Assumptions
- Framework: Information Search Process (ISP)

Information Search Experience (I S X)

- Elements of the Model
- Representation of the Model
- Conclusion

Emotion and IA?

Literature-based + Experience

Definition Of Emotion

- Very difficult and debated
- Here: Any of the feelings or moods users have when they interact with information

Cognitive Traditions Expanding

- HCI, Usability, Product Design, etc. looking at more than practicality, utilitarian benefits
- „**Funology**“ - Blythe, M., Monk, A. & Wright, P. (2003). *Funology: From usability to enjoyment*. Kluwer.
- **Emotions and Design** - Desmet, P.M.A. (2002a). *Designing emotions* [dissertation]. Delft: Delft University of Technology.

Emotions Affect Thought & Actions

- “Attractive things work better”
- Implies an **extended mandate** for design

Invisible Substrate?

- **Steve Krug** (2001). *Don't make me think: A common sense approach to web usability*. Indianapolis: Que.
„Don't make me frustrated“
- **Louis Rosenfeld & Peter Morville** (1998). *Information architecture for the world wide web*. Sebastopol: O'Reilly.
Begins with description of why building architecture makes an emotional impact on us, but then deal with rational aspects of IA
- **Richard Wurman** (1989). *Information anxiety*. Doubleday.
Really about understanding, not anxiety

David Ellis (1989). A behavioural model for information retrieval system design. *J. of Info. Science*, 15 (4/5), 237-247.

- Starting, Chaining, Browsing, Differentiating, Monitoring, Extracting, Verifying, Ending

Gary Marchionini (1995). *Information seeking in electronic environments*. Cambridge, Eng.: Cambridge U. Press

Alan Foster (2004). A nonlinear model of information-seeking behavior. *JASIST*, 55(3), 228-237

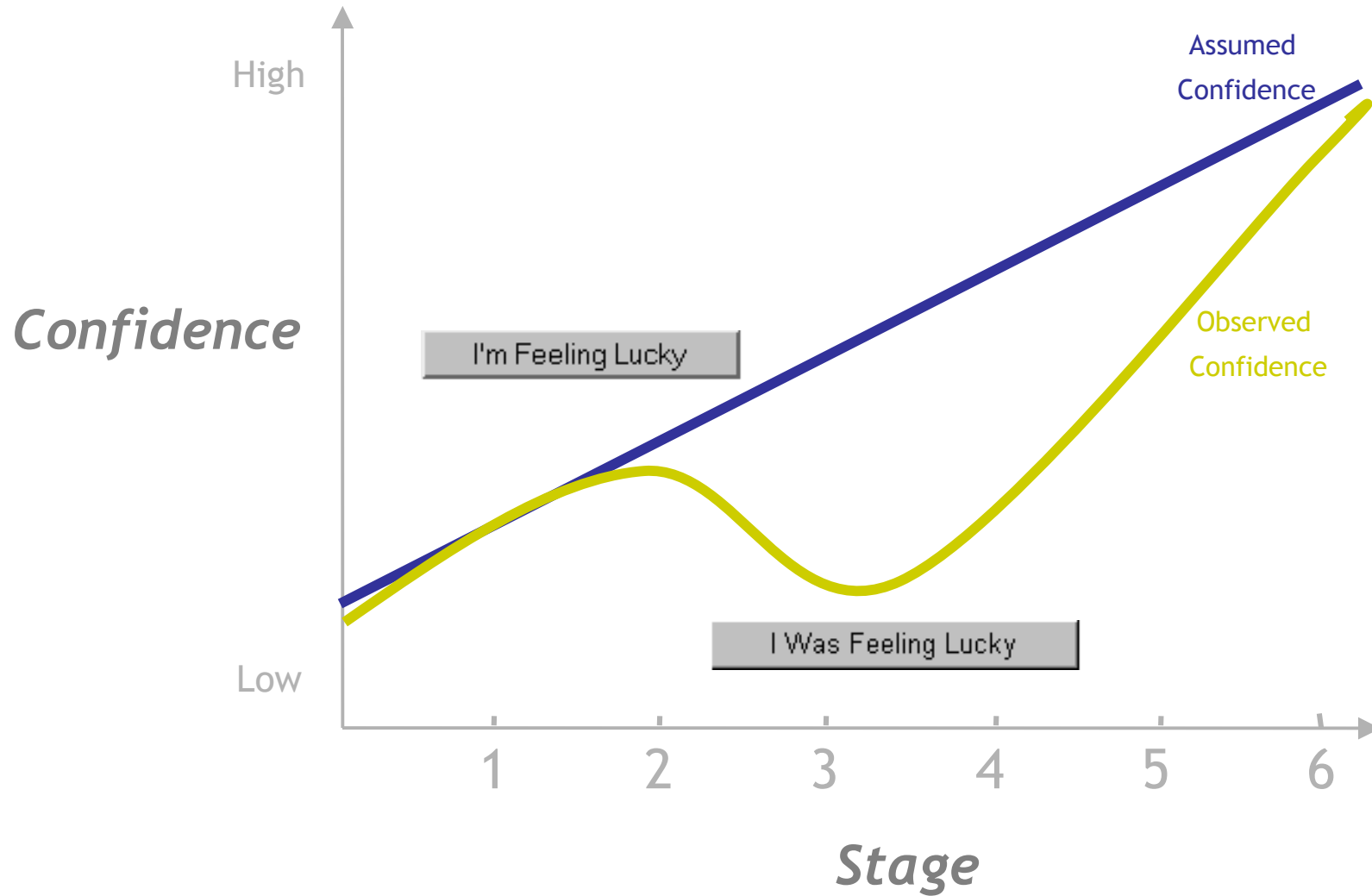
- Opening, Orientation, Consolidation

Carol Kuhlthau (1993). *Seeking meaning: A process approach to library and information services*. Norwood, NJ: Ablex.

- Information Search Process (ISP)
- **Kelly's (1963) Personal Construct Theory**
 - Actions, Thoughts and Feelings
 - Aligned with seeking stages
- Uncertainty
- Perceived Complexity

Stage	Actions	Thoughts	Feelings
1. Initiation Recognize information need	Seeking background information/ starting	Vague	Uncertainty, apprehension
2. Selection Identify sources		General	Optimism
3. Exploration Investigate topic	Seeking relevant information	More specific, but mixed	Confusion, frustration, doubt
4. Formulation Formulate a focus		Narrowed, clearer	Clarity
5. Collection Gather information	Seeking more focused information	Increased interest	Sense of direction, confidence
6. Presentation Complete search, use information		Clear and very focused	Relief, satisfaction, or disappointment

I S P - Confidence “Dip”



Assumptions

- Emotional factors should be considered
- Staged process can explain real seeking behaviors on web *
- ISP can be viewed on different scales
 - Single session or over time
- Reducing uncertainty and complexity key goal

***Choo, C. W., Detlor, B. & Turnbull, D.** (2000). Information seeking on the web: An integrated model of browsing and searching. *FirstMonday*, 5(2).

http://firstmonday.org/issues/issue5_2/choo/index.html.

Create an ISP

- 1. Define user groups**
- 2. Identify phases of an ISP for your site**
- 3. Note actions, thoughts, feelings at each stage**
Uncertainty and complexity
- 4. Identify user requirements at each stage**
- 5. Develop appropriate features, functions**
- 6. Map to business goals**

Example I S P - Job Site

Phase	Actions	Thoughts	Feelings	Req.	Features	Business
1. Initiation - Recognize need to seek a job	Identifying problem and solving strategies	Vague, unclear	Uncertainty, apprehension	Call to action; Confirmation	On- and off-line campaign to raise awareness and improve image	Raise awareness of the company for job seekers
2. Selection - Choose appropriate resources	Locate starting point; Identifying job criteria	General, task oriented, open to new ideas	Curiosity, impatience; Skepticism	Starting Point; Credibility	High-quality design ; Self-assessment tool	Attract highly-qualified job seekers
3. Searching - Locate relevant vacancies	Entering query or navigating job listings	Positive, thinking ahead to finding a job	Anticipation, optimism	Overview; Orientation	Search; Faceted navigation; Filter by group	Make job openings publicly available over on the web
4. Differentiation - Prioritize search results	Scanning results; Prioritizing; Reiterating search	Unclear, mixed	<i>Uncertainty</i> , confusion, feeling "underwhelmed"	Possibilities; Reduced complexity	Number of items next to category name; Related jobs; "Shopping cart"	
5. Deciding - Determine which positions are most relevant	Making a decision	Narrowed, Increased interest and understanding	Feelings of clarity, Satisfaction or dissatisfaction	Guidance; Trust in the company	Ability to sort; Facts about company Location information	Gain trust of potential applicants
6. Monitor - Check status / availability over time	Visit site again	Remembering details	Hope, feelings of attachment	Regular contact, networking and reminder services	Page bookmark; Newsletter; Login and profile; "push" features	Relationship with potential future employees
7. Action - Apply for a job	Filling out forms online or offline; Collecting necessary personal data	Clear, focused on completing tasks accurately	Relief, nervousness	Time; Privacy and discretion;	Online & offline application; Information about the interview	Get highly-qualified applicants

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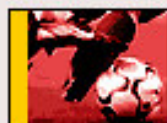


- Inquiry demanded into MMR study
- Iran conservatives in the lead

News in 43 languages فارسی|عربی

SPORT

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- Live: Premiership
- John Charles dies
- Back hurt by England snub

TV

- EastEnders
- BBC TV schedules
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- Launch Radio Player
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- Asian Network
- Radio 1/2/3/4/5Live

WHERE I LIVE

For local information, enter your UK postcode or town name

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www.mentalhealth.com/

» [The Mental Health Foundation](#) BBCi Recommended

Advice on depression, ADHD and learning disabilities, and support group details for all areas of mental health
www.mentalhealth.org.uk/

» [Mind - The Mental Health Charity](#) BBCi Recommended

Factsheets on a huge range of subjects, for anyone who has ever had to cope with mental distress
www.mind.org.uk/

[Eric Conveys an Emotion](#)

... The frame on the left shows the currently filled **emotions**. The list in the right frame shows requests that are waiting ...

Results for "**emotions**"
from...

BBCi Best Links

» [BBC - Emotional Health homepage](#) BBCi Best Link

Emotional health information, topics include anger, relationships, self-esteem, sex issues, sleep and stress

» [BBC - Radio 4 - Emotional Rollercoaster](#) BBCi Best Link

Are we controlled by our emotions?

Measuring Emotions?

- **Richard Hazlett** (2003). Measurement of user frustration: A biologic approach. *CHI 2003 Proceedings*, 734-735.
- **Pieter M.A. Desmet** (2002). *Designing emotions* [dissertation]. Delft: Delft University of Technology.
- **User Research**
 - Role playing, Interviews, Observations, Customer Feedback, Testing
 - Focus on identify search processed (phases), uncertainty and complexity, and emotional aspects

Carol Kuhlthau & Stephanie Tama (2001). Information Search Process of Lawyers: A Call For 'Just For Me' Information Services. *J. of Documentation* 57(1), 25-43.



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Information Search Experience

I S X

4 Dimensions

- **Needs**
- **Uses**
- **External Factors**
- **Internal Factors**

3 Planes

- **Physical / Action**
- **Cognitive / Thought**
- **Affective / Motivational**

Levels at which users engage information

Needs - Problem, Gap

- **Visceral Need** – Actual, unexpressed need
 - Improvement, advancement, ...
- **Reflective Need** – Need becomes conscious
 - Problem, gap; Topic, domain of interest
- **Formalized Need** – Expression of need
 - Problem statement; Cognitive approach

Robert S. Taylor (1968). Question-negotiation and information seeking in libraries. *College & Research Libraries*, 29, 178-194.

Thomas D. Wilson (1981). On user studies and information needs. *Journal of Documentation*, 37, 3-15

Uses – Solution

- **Information Use** – Extracting, sorting, filtering, comparing, integrating
- **Meaning** – Sense making, understanding, knowledge
- **Value** – Judgment, belief system; Satisfaction or dissatisfaction, resolution

Brenda Dervin (1998). Sense-Making theory and practice: An overview of user interests in knowledge seeking and use. *Journal of Knowledge Management*, 2 (2), 36-46.

Donald A. Norman (2004). *Emotional design: Why we love (or hate) everyday things*. New York: Basic Books.

Internal – Prior Knowledge, Experience

- **Actions** – Common tasks, behavior, steps to completion, habits
- **Thoughts** – Decision process, considerations, evaluation, construction; Experience
- **Feelings** – Emotions, moods

Carol Kuhlthau (1991). Inside the search process: Information seeking from the user's perspective. *JASIST*, 42(5), 361-371.

Jannica Heinström (2003). Five personality dimensions and their influence on information behavior. *Information Research*, 9(1).

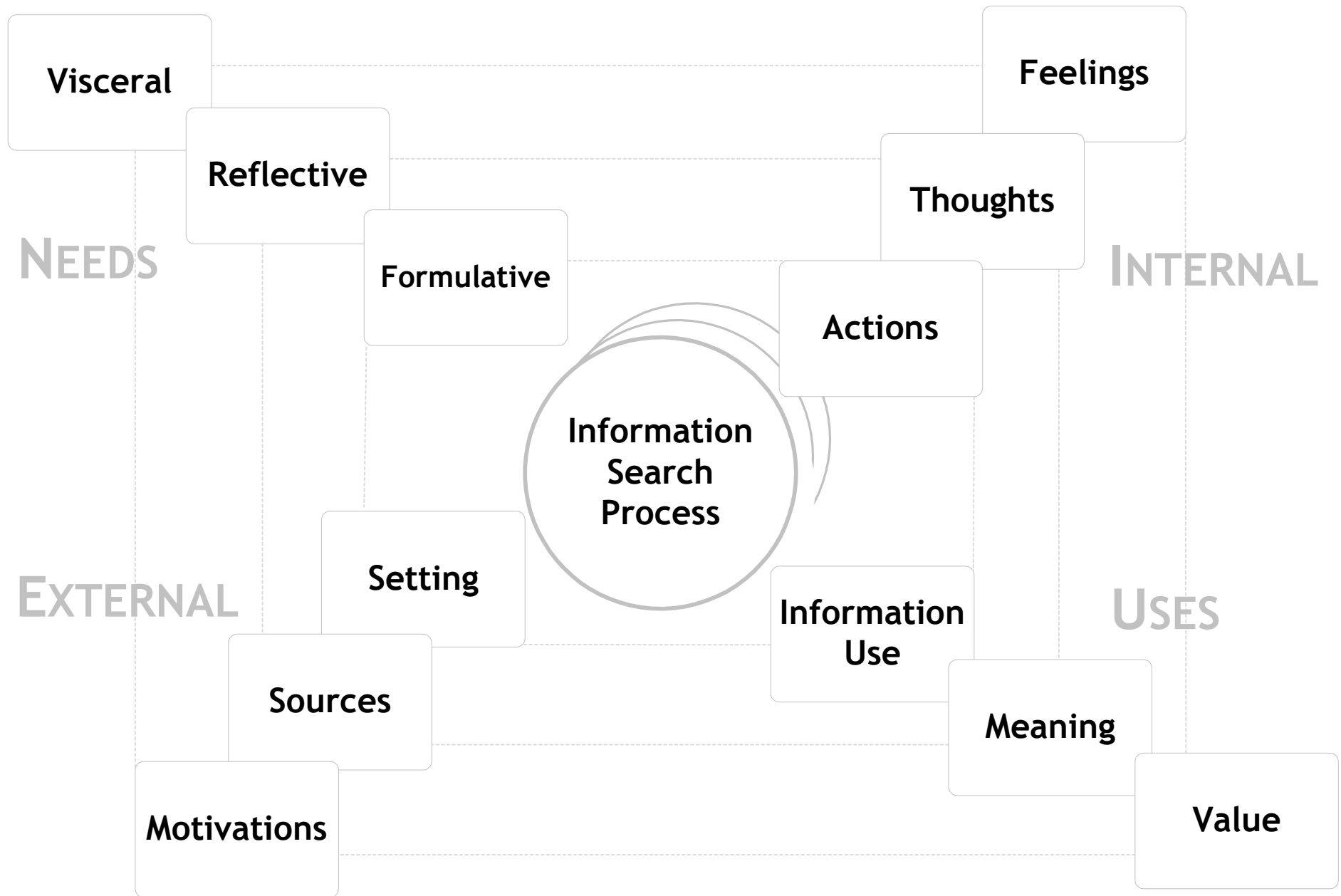
External – Context for Information Seeking

- **Setting** – Technology, access, time constraints, project
- **Sources** – Information, structure of content, information traits, social networks
- **Motivational Factors** – Role, beliefs, culture

Robert S. Taylor (1991). Information Use Environments. In *Progress in Communication Science*, ed. B. Dervin and M.J. Voigt, 217-254. Norwood, NJ: Ablex Publishing Corporation.

Alan Foster (2004). A nonlinear model of information-seeking behavior. *JASIST*, 55(3), 228-237

Information Search eXperience



I S X - Summary

	Needs	Internal	External	Uses	Conclusion
Physical / Action	Criteria for ideal and acceptable job	Find site, Search and browse, sort, filter, compare;	Limited times to search; Interruptions; Employer requirements	Extract, save and submit; On- and offline formats	Flexible, customizable search system and help managing process
Cognitive / Thought	Career advancement; Dissatisfaction with current job	Relevance driven by job criteria; Exhaustive searching	Structured processes, Variety of sources; Varied vocabulary	Basic criteria must be met; Benefits enhance	Formula of Trade-offs; Projective resolution
Affective / Motivation	Self-improvement; Family support	Trepidation about change; Optimism about future	Current lifestyle; Location	Type of work and company activities important; Credibility	High personal expectations > relief or disappointment
Conclusion	Structured complex problem, but familiar processes	Hopeful of best job, but willing to negotiate; Conscientious	Various sources, technologies, formats; Assumed processes	Potential compromises greatly impact original need; Personal resolutions	

Uses Of The I S X Model

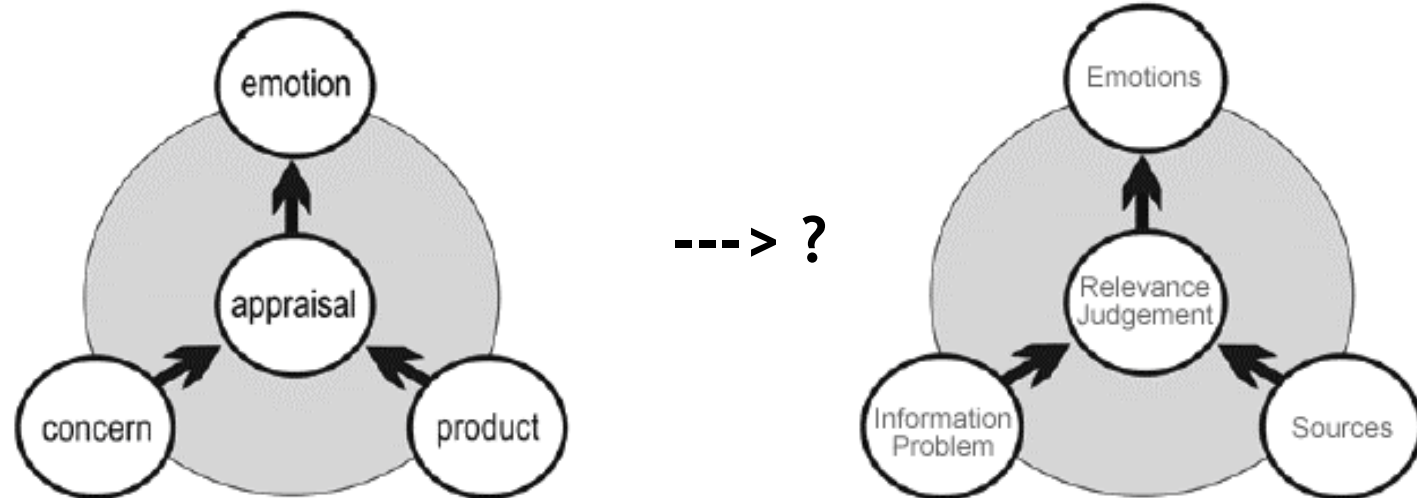
- Shared common vision for dev. team
- Conceptual feature development
- Structuring user research and findings
- Organize documentation of users
- Communicating to clients

Advantages

- User-centered and holistic
- Longevity
- Flexible
- Solution-oriented

- **Search is a holistic process**
- **Emotions** can be considered in search design and IA-related work
- **Uncertainty and complexity** as heuristics in search design
- **Real seeking behavior is discontinuous**
- **Gap between users and search design:** Search systems assume certainty and continuity; but the user's experience is filled with uncertainty and discontinuity.

- **“Zones of Intervention”**
 - Drivers, triggers, and elements in interfaces
- **Categories of Emotions and Behavior**
- **Models of Emotions**
P. Desmet (2003)



Seeking renewed sense,

Uncertain, bridging mind gaps.

Yes, I feel lucky!

- Blythe, M, Monk, A. & Wright, P. (Eds.)(2003). *Funology: From usability to enjoyment*. Kluwer.
- Choo, C. W., Detlor, B. & Turnbull, D. (2000). Information seeking on the web: An integrated model of browsing and searching. *FirstMonday*, 5(2). Accessed online March 10, 2003 at http://firstmonday.org/issues/issue5_2/choo/index.html.
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- Meho, L.I. & Tibbo, H.R. (2003). Modeling the information-seeking behavior of social scientists: Ellis's study revisited. *Journal of the American Society for Information Science and Technology*, 54(6), 570-587.
- Norman, D. A. (2002). Emotion and design: Attractive things work better. *Interactions Magazine*, ix (4), 36-42.
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